Audit of Timber Harvesting and Road Construction, Maintenance and Deactivation

Tree Farm Licence 25 (northern portion)

Western Forest Products Limited

FPB/ARC/27

October 2000

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Report from the Board

A. Report from the Board

This is the Board's report on a compliance audit[1] of Tree Farm Licence 25[2] held by Western Forest Products Limited (WFP). The Report from the Auditor (Part B) describes the operating areas of the forest licence, the portion of the licence audited and the scope of the audit.

Before completing this report, the Board considered written representations from WFP and a biologist identified in the auditor's report as required under section 182 of the *Forest Practices Code of British Columbia Act* (the Act). The Board also considered the Report from the Auditor along with supporting audit evidence. Based on its analysis of this information, the Board affirms the audit opinion under Section 5.0 of the report.

Conclusions

WFP's timber harvesting, road maintenance and road deactivation practices generally complied with Forest Practices Code requirements. The only significant non-compliance involved road construction practices around streams, for approximately one kilometre in aggregate of the Duthie Main Road on Pooley Island. WFP had not conducted proper assessments of the streams in this area prior to road construction, as required by section 4(6)(a) of the *Forest Road Regulation*. Under section 51(2) of the Act, road construction must either be stopped when unclassified streams are encountered or be modified so that the construction does not damage the streams. The worksite should remain inactive until these unknown forest resources are classified and a review of the road layout and design is completed to ensure compliance. The Board is of the opinion that it reflects the public's expectations that companies will: a) give priority to ensuring proper classification of streams prior to any operations (for example road building) to avoid adverse environmental impact; and b) react appropriately to issues not identified during the planning stages that arise during forestry operations.

In Section 3.0 of the auditor's report, the auditor noted non-compliance in placing shot-rock within the streambed of a known fish stream. WFP informed the Board that, in May 2000, using an approved prescription for remedial action, the company had removed the excessive shot–rock.

Furthermore, WFP has indicated to the Board that changes have been made to the company's road construction and harvesting practices in regards to classification and mapping of streams and supervision of road construction.

In Section 3.0 of the auditor's report, under the discussion of areas where improvement is required, the auditor noted the failure by WFP to burn post-harvest debris piles within the required time-frames. The Board appreciates the difficulty WFP would experience in burning post-harvest debris piles in this area of the province, due to the high rainfall and narrow

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[1] Part C of this document provides background information on the Board's audit program and the process followed by the Board in preparing its report.

[2] The report from the auditor (Part B of this document) provides specifics about the operating areas of Tree Farm Licence 25, the forest planning and field activities of Western Forest Products Limited that were the subject of this audit, and the audit findings.

window for the proper burning conditions. WFP has informed the Board that it is monitoring weather for appropriate windows to burn the debris safely and the Board accepts this action.

Recommendation

As provided by section 185 of the Act, the Board recommends that Western Forest Products Limited conduct a field performance review of the newly introduced stream assessment process and standard operating procedures to ensure compliance with the Code.

In accordance with section 186 of the Act, the Board requests that Western Forest Products Limited advise the Queen Charlotte Islands, North Coast and Mid-Coast forest district managers of the actions taken and the timing involved to address the above recommendation by January 31, 2001, with a copy to the Board.

Use of Specialists

It is the Board's opinion that there should be a quality control process for any assessments required under the Forest Practices Code. These assessments are often prepared by specialists, who may or may not belong to a professional licensing body. Even though licensees are putting greater reliance on these licenced and non-licenced professionals, it is the Board's opinion that licensees are ultimately responsible for any operational plans prepared that are based on these assessments.

The first step would be the licensee's review of the qualifications and experience of the professionals doing the assessments prior to the start of the work. Often the forestry staff that receive the assessments do not have the technical expertise to adequately review them. Nonetheless, it would be possible for the forestry staff to use a standard checklist to ensure that all the technical components of the assessment were covered. For instance, such a check would ensure that terrain stability field assessments were not conducted while the site was covered with snow. Forestry staff without the necessary expertise to review the assessment could then follow a "reasonableness test."[3] Recommendations of any assessment would be weighted against the staff's knowledge of the site, as well as past results of forestry practices, to ensure that the assessment makes sense for the site conditions. If the reviewers cannot satisfy themselves that the assessment and recommendations are reasonable, they should then consider having the assessment reviewed by another qualified professional.

This type of two-level review could be used in any area where specialists are conducting assessments; for example fish stream and terrain stability assessments that may be given blanket acceptance because technical experts prepared the assessments. Licensees must ensure that the assessments are prepared, reviewed and kept current until the forest practice has occurred. If a significant period of time has elapsed from the time of preparation to the execution of the operational plan based on the assessment, or if the sampling methodology or standards are changed, then the assessment should be reviewed and if necessary revised.

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[3] Concept from the Canadian Institute of Chartered Accountants' Handbook

Recommendation

As provided by section 185 of the Act, the Board recommends that Western Forest Products Limited review its current methodology for assessments prepared by specialists and develop technical checklists for forestry professionals and technical staff receiving these assessments.

In accordance with section 186 of the Act, the Board requests that Western Forest Products Limited advise the Board by January 31, 2001, of the actions taken to implement these recommendations.

Area of the Code Requiring Improvement

A concern raised by the auditor was the lack of a follow-up mechanism, following a slope failure, to determine if the failure resulted from an inadequate terrain stability assessment. The Code does not require reporting of slides by licensees or investigation by regulatory agencies; however, some licensees, including Western Forest Products Limited, voluntarily report slides. There should be a standard practice across the province for licensees reporting slides and for the Ministry of Forests following up with an investigation of the circumstances.

The Code does not require the licensee or the government to maintain the slope stability of a cutblock once timber harvesting is completed. Similarly, there is no requirement to report a slide if a slide occurs after the completion of a forest practice. This is different from roads where there is a requirement to inspect and maintain them under section 18(1) of the *Forest Road Regulation*.

As many slides can occur naturally, there should be a mechanism to allow licensees to report slope failure without necessarily assuming responsibility. A case could be made to amend section 45(4)(c) of the Act, which deals with the protection of the environment, so licensees can report slides without assuming responsibility. The Ministry of Forests could then conduct an investigation to determine the extent of the slope failure, the causes, and the appropriateness of recommendations in any terrain stability assessment(s).

Recommendation

As provided by section 185 of the Act, the Board recommends that the Ministry of Forests implement a review process for slope failures and allow licensees to report slides without the implicit admittance to contravention of section 45 of the Act.

In accordance with section 186 of the Act, the Board requests that the Deputy Minister of Forests advise the Board by January 31, 2001 of the actions taken to implement these recommendations.

W.N. (Bill) Cafferata
Chair
October 4, 2000

Report from the Auditor

B. Report from the Auditor

1.0 Introduction

As part of the Forest Practices Board's 1999 compliance audit program, Tree Farm Licence 25 (the "TFL") was selected for audit from the population of major forest licences within the Vancouver Forest Region. The TFL, held by Western Forest Products Limited, was selected randomly and not on the basis of location or level of performance.

Only operations in the northern portion of the TFL were selected for audit because of the large area covered by the TFL, which lies within six Ministry of Forests districts. The northern areas of the operations audited are located in the Sewell Inlet area of South Moresby Island in the Queen Charlotte Forest District, on Yeo, Roderick, and Pooley Islands in the MidCoast Forest District, and near Collins Bay in the North Coast Forest District (see attached map).

The TFL has an allowable annual cut of 643,000 cubic metres, of which approximately 340,000 cubic metres are harvested in the northern operations.

2.0 Audit Scope

The audit examined the planning and field activities related to timber harvesting and road construction, maintenance and deactivation for the period June 15, 1998 to June 30, 1999. This involved examining operational plans, such as forest development plans[1], silviculture prescriptions[2], and logging plans[3], that supported the activities examined during the audit period.

These activities were assessed for compliance with *the Forest Practices Code of British Columbia Act* and related regulations (the Code), including transitional provisions of the Code.

The activities carried out by Western Forest Products during the audit period, and therefore subject to audit, were:

- harvesting of 17 cutblocks
- preparation and obtaining approvals of silviculture prescriptions for 13 cutblocks which were not harvested during the period
- construction of 11 road sections totaling 14.3 kilometres
- obtaining approvals for the layout and design of 22 road sections totaling 30 kilometres
- maintenance and seasonal deactivation of approximately 266 kilometres of road, involving activities such as surfacing and the cleaning of culverts and ditches
- construction of three bridges and maintenance of 77 bridges
- permanent deactivation of 39 road sections totaling 40 kilometers

Section 3 describes the audit of these activities and the results. The Board's audit reference manual, *Compliance Audit Reference Manual, Version 4.0*, May 1999, sets out the standards and procedures that were used to carry out this audit.

3.0 Audit Findings

Planning and practices examined

The audit work on selected roads and cutblocks included ground-based procedures and assessments from the air using helicopters. The audit examined the following activities:

- 16 cutblocks harvested during the audit period
- 10 cutblocks where harvesting activity had not commenced but the related silviculture prescriptions were approved during the audit period
- construction of nine road sections totaling 9.4 kilometres of road
- road layout and design of seven road sections totaling 12.4 kilometres where construction activity had not commenced
- maintenance and seasonal deactivation of approximately 127 kilometres of road
- construction of three bridges and maintenance of 36 bridges
- permanent deactivation of 11 road sections totaling 13 kilometres

Findings

The audit found that, with the exception of road construction activities, Western Forest Products complied, in all significant respects, with the timber harvesting, road maintenance and road deactivation requirements of the Code.

The audit identified a situation of significant non-compliance in respect to road construction around riparian features. The non-compliance involved the identification and classification of streams, as discussed in the road construction section below.

Although the audit found Western Forest Products timber harvesting practices complied in all significant respects, there were two areas in which improvement is required.

- On a number of cutblocks, the silviculture prescriptions contained streams that were incorrectly classified or mapped, or not identified.

  For a number of these streams, portions were not correctly classified by the biologist undertaking the work on contract for Western Forest Products.

  The above non-compliance did not constitute significant non-compliance because the riparian management areas established in the field provided adequate protection to the streams and their associated riparian areas.

- The burning of post-harvesting debris was not completed within the time frames required by the Code. This lack of burning has resulted in minimal impact, or risk of impact, to the environment.

Road construction around streams

The audit identified significant non-compliance involving road construction practices around streams not identified or classified by Western Forest Products prior to or during the construction of the Duthie Main road on Pooley Island. The non-compliance issues involve a section of road of approximately one kilometre in length.

The non-compliance included the construction of a road within the riparian management area of a stream to sedimentation of a few streams that flow into known fish streams. Most of these streams that were not identified or classified would, under Code requirements, have defaulted to fish streams.

The non-compliance on this section of road also includes the diversion of a default fish stream down a ditch for a short distance, building stream crossings outside of timing windows, and the placing of shot-rock within the streambed of a known fish stream. The shot-rock completely covers about 15 metres of the streambed downstream of the road crossing.

Western Forest Products commissioned fish inventories of these streams subsequent to road construction and in response to the audit findings. The fish inventories indicate that with the exception of portions of two streams that are downstream of the road crossing, the remainder of the streams did not contain fish before the road construction.

The main sections of the Code to which the non-compliance relates are sections 4(2) and 4(6)(a) of the *Forest Road Regulation*.

4.0 Other Comments

The operating area of TFL 25 is comprised of many naturally unstable slopes. Numerous slides have occurred in previous years on roads and within cutblocks. Some of the slides may have resulted from past forestry practices or as part of natural processes.

Under the Code, harvesting and road practices can occur in potentially unstable areas if the practices are consistent with the results or recommendations of the terrain stability field assessment for the area. The mapping and assessing terrain stability guidebook outlines the standards and procedures for mapping and assessing terrain stability.

For the forestry practices examined in the audit, Western Forest Products met the Code requirements, in all significant respects, in carrying out forestry practices in potentially unstable terrain.

Although standards and procedures for mapping and assessing terrain stability are set out in the guidebook, the Code does not have a process for ensuring the quality of the assessments. In situations where a forest company has met Code requirements (i.e., followed recommendations of a terrain stability field assessment) and a slope failure occurs (slide), no process exists for identifying whether the failure resulted from a poor quality assessment. Consequently,

professionals undertaking inadequate assessments will not be held accountable and may continue to issue inadequate assessments.

The audit undertook a detailed review of the terrain stability field assessments for six cutblocks. The review identified issues with three of the six assessments. The issues ranged from inadequate consideration of windfirm boundaries adjacent to unstable areas to field work being carried out when snow on the ground did not provide adequate conditions for the assessment to be carried out.

5.0 Audit Opinion

In my opinion, except for the significant non-compliance described below, the timber harvesting, road maintenance, and deactivation activities carried out by Western Forest Products Limited on the northern portion of Tree Farm 25, from June 15, 1998 to June 30, 1999 were in compliance, in all significant respects, with the requirements of the Code as of June 1999.

Road construction practices

As described in section 3, the audit identified significant non-compliance involving road construction practices around streams not identified or classified by Western Forest Products prior to or during the construction of the Duthie Main road on Pooley Island.

The non-compliance includes the construction of a road within the riparian management area of a stream to sedimentation of a few streams that flow into known fish streams. Most of these streams that were not identified or classified would, under Code requirements, have defaulted to fish streams.

Without further qualifying my opinion, I draw attention to Section 4, which notes that the Code does not have a process for ensuring the quality of terrain stability field assessments.

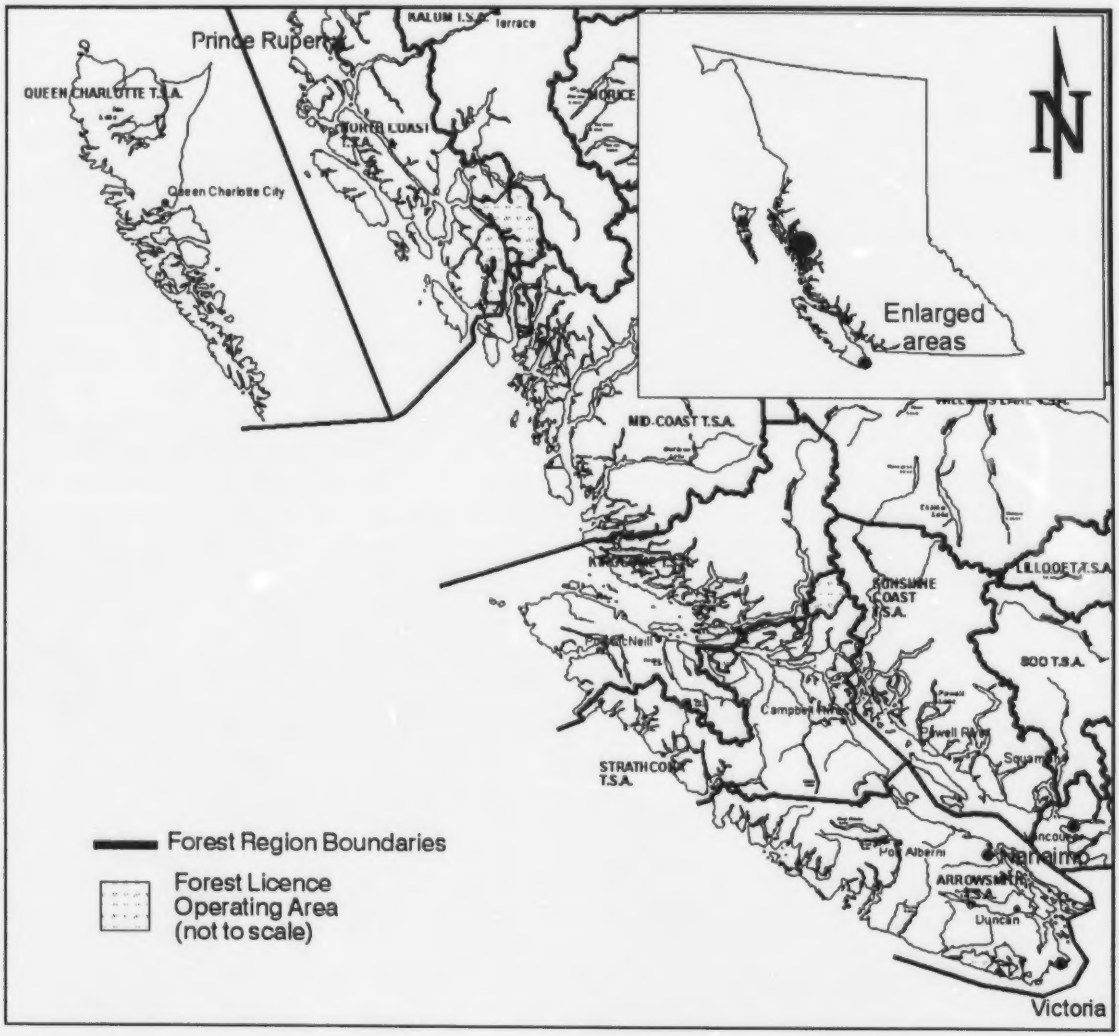
In reference to compliance, the term "in all significant respects" recognizes that there may be minor instances of non-compliance that either may not be detected by the audit, or that are detected but not considered worthy of inclusion in the audit report.

Sections 2 and 3 of this report from the auditor describe the basis of the audit work performed in reaching the above opinion. The audit was conducted in accordance with the auditing standards of the Forest Practices Board. Such an audit includes examining sufficient road and timber harvesting practices to support an overall evaluation of compliance with the Code.

Sucha More, CA
Auditor of Record

Victoria, British Columbia
April 7, 2000

Tree Farm Licence 25



Endnotes

1. A forest development plan is an operational plan which provides the public and government agencies with information about the location and scheduling of proposed roads and cutblocks for harvesting timber over a period of at least five years. The plan must specify measures that will be carried out to protect forest resources (including water, fisheries, and other forest resources). It must also illustrate and describe how objectives and strategies established in higher level plans, where they have been prepared, will be carried out. Site specific plans are required to be consistent with the forest development plan.

2. A silviculture prescription is a site specific operational plan that describes the forest management objectives for an area to be harvested (a cutblock). The silviculture prescriptions examined in the audit are required to describe the management activities proposed to maintain the inherent productivity of the site, accommodate all resource values including biological diversity, and produce a free growing stand capable of meeting stated management objectives. Silviculture prescriptions must be consistent with higher level plans that encompass the area to which the prescription applies.

3. A logging plan is an operational plan that details how, when, and where timber harvesting and road construction activities will take place in a cutblock, in accordance with the approved silviculture prescription and forest development plan for the area. Information about other forest resource values, plus all current field information for the area, must be clearly shown in the logging plan. The requirement to prepare logging plans was repealed on June 15, 1998, but may be in effect in limited circumstances. Logging plans approved before June 15, 1998 continue to be in effect until timber harvesting is completed.

Forest Practices Board Compliance Audit Process

C. Forest Practices Board Compliance Audit Process

Background

The Forest Practices Board conducts audits of government's and agreement holder's compliance with the *Forest Practices Code of British Columbia Act* and regulations (the Code). The Board is given the authority to conduct these periodic independent audits by section 176 of the Act. Compliance audits examine forest planning and practices to determine whether or not they meet Code requirements.

The Board undertakes both "limited scope" and "full scope" compliance audits. A limited scope audit involves the examination of selected forest practices (e.g., roads, or timber harvesting, or silviculture) and the related operational planning activities. A full scope audit examines all operational planning activities and forest practices.

The Board determines how many audits it will conduct in a year, and what type of audits (limited or full scope), based on budget and other considerations. The Board audits agreement holders who have forest licences or other tenures under the *Forest Act* or the *Range Act*. The Board also audits government's Small Business Forest Enterprise Program (SBFEP) which is administered by Ministry of Forests district offices. Selection of agreement holders and district SBFEPs for audit is done randomly, using a computer program, to ensure a fair, unbiased selection of auditees.

Audit Standards

Audits by the Forest Practices Board are conducted in accordance with the auditing standards developed by the Board. These standards are consistent with generally accepted auditing standards.

The audits determine compliance with the Code based on criteria derived from the *Forest Practices Code of British Columbia Act* and its related regulations. Audit criteria are established for the evaluation or measurement of each practice required by the Code. The criteria reflect judgments about the level of performance that constitutes compliance with each requirement.

The standards and procedures for compliance audits are described in the Board's *Compliance Audit Reference Manual*.

Audit Process

Conducting the Audit

Once the Board selects an audit and decides on the scope of the audit (limited scope or full scope), the staff and resources required to conduct the audit and the period covered by the audit are determined. Board staff also meet with the party being audited to discuss the logistics of the audit before commencing the work.

All the activities carried out during the period subject to audit are identified. This includes activities such as the sites harvested or replanted and road sections built or deactivated during the audit period. The items that comprise each forest activity are referred to as a "population." For example, all sites harvested form the "timber harvesting population." All road sections constructed form the "road construction population." The populations are then sub-divided based on factors such as the characteristics of the sites and the potential severity of the consequences of non-compliance on the sites.

The most efficient means of obtaining information to conclude whether there is compliance with the Code is chosen for each population. Because of limited resources, sampling is usually relied upon to obtain audit evidence, rather than inspecting all activities.

Individual sites and forest practices within each population have different characteristics, such as the type of terrain or type of yarding. Each population is divided into distinct sub-populations on the basis of common characteristics (e.g., steep ground vs. flat ground). A separate sample is selected for each population (e.g., the cutblocks selected for auditing timber harvesting). Within each population, more audit effort (i.e., more audit sampling) is allocated to the sub-population where the risk of non-compliance is greater.

Audit work in the field includes assessments from helicopters and intensive ground procedures such as the measurement of specific features like road width. The audit teams generally spend two to three weeks in the field.

Evaluating the Results

The Board recognizes that compliance with the many requirements of the Code is more a matter of degree than absolute adherence. Determining compliance requires the exercise of professional judgment within the direction provided by the Board.

Auditors collect, analyze, interpret and document information to support the audit results. The audit team, comprised of professionals and technical experts, first determines whether forest practices are in compliance with Code requirements. For those practices considered to not be in compliance, the audit team then evaluates the degree to which the practices are judged not in compliance. The significance of the non-compliance is determined based on a number of criteria including the magnitude of the event, the frequency of its occurrence, and the severity of the consequences.

As part of the assessment process, auditors categorize their findings into the following levels of compliance:

Compliance – where the auditor finds that practices meet Code requirements.

Not significant non-compliance – where the auditor, upon reaching a non-compliance conclusion, determines that a non-compliance event, or the accumulation and consequences of a number of non-compliance events, is not significant and is not considered worthy of reporting.

Significant non-compliance – where the auditor determines that the event or condition, or the accumulation and consequences of a number of non-compliance events or conditions, is significant and is considered worthy of reporting.

Significant breach – where the auditor finds that significant harm has occurred or is beginning to occur to persons or the environment as a result of the non-compliance. A significant breach can also result from the cumulative effect of a number of non-compliance events or conditions.

Identification of a possible significant breach requires the auditor to conduct tests to confirm whether or not there has been a breach. If it is determined that a significant breach has occurred, the auditor is required by the *Forest Practices Board Regulation* to immediately advise the Board, the party being audited, and the Ministers of Forests, Energy & Mines, and Environment, Lands & Parks.

Reporting

Based on the above evaluation, the auditor then prepares the "Report from the Auditor" for submission to the Board. The party being audited is given a draft of the report before it is submitted to the Board so that the party is fully aware of the findings. The party is also kept fully informed of the audit findings throughout the process, and is given opportunities to provide additional relevant information and to ensure the auditor has complete and correct information.

Once the auditor submits the report, the Board reviews it and determines whether any party or person is potentially adversely affected by the audit findings. If so, the party or person must be given an opportunity to make representations before the Board decides the matter and issues a final report to the public and government. The representations allow potentially adversely affected parties to present their views to the Board.

At the discretion of the Board, representations may be written or oral. The Board will generally offer written representations to potentially adversely affected parties, unless the circumstances strongly support the need for an oral hearing.

The Board then reviews both the report from the auditor and the representations before preparing its final report, which includes the Board's conclusions and may also include recommendations, if appropriate.

If the Board's conclusions or recommendations result in newly adversely affected parties or persons, additional representations would be required.

Once the representations have been completed, the report is finalized and released: first to the auditee and then to the public and government.